1.	**Field of study**	**Computer Science**
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2019/2020 (summer term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Module: Artificial intelligence algorithms

Module code: 08-IN-ISI-S2-ASI

1. Number of the ECTS credits: 2

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
ASI -U_5	Can design IT systems supported by artificial intelligence algorithms.	K_U08 K_U16 K_U17	2 1 2
ASI -U_6	Is able to calculate the degree of membership in a diffused series and to correctly identify certain type of membership function taking advantage of mathematical notation	K_U08 K_U17	1 2
ASI -U_7	Can use naïve Bayes classifier and k?nearest neighbors algorithm for defined problems at given limitations.	K_U08 K_U16 K_U17	1 2 1
ASI -W_1	Possesses basic knowledge from the field of artificial intelligence algorithms	K_W08	5
ASI -W_2	Has basic knowledge from the field of diffused logics, knows basic logic operations in reference to diffused series and differentiates basic types of membership functions.	K_W08	3
ASI -W_3	Possesses basic knowledge from the field of machine learning (chosen methods of controlled and uncontrolled learning)	K_W08 K_W18	2 2
ASI -W_4	Possesses basic knowledge from the field of genetic algorithms	K_W08	1

3. Module description

Description	The aim of classes in this module is making student familiar with chosen techniques and methods of artificial intelligence, with special emphasis on classification methods. Another important aspect undertaken during the module is concluding making use of diffused logics, when input concepts are not

	directly and unambiguously defined. Moreover, the student gets knowledge and skills from the field of neural networks, which can be used to solve complex optimization tasks or to context recognition.
Prerequisites	

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
ASI _w_1	Exam	The goal is to verify theoretical knowledge gained during lectures and practical skills gained during laboratory classes. The exam in the form of test includes variety of closed multiple? choice question and practical tasks.	ASI -W_1, ASI -W_2, ASI -W_3, ASI -W_4
ASI _w_2	Control tests	Tests after presentation of subsequent techniques or group of issues concerning artificial intelligence.	ASI -U_5, ASI -U_6, ASI -U_7
ASI _w_3	Group reports	Use of the acknowledged artificial intelligence methods to classification tasks or in the process of concluding, taking advantage of data acquired from repository: Machine Learning Repository, or artificially generated by the student.	ASI -U_5, ASI -U_6, ASI -U_7, ASI -W_1, ASI -W_2, ASI -W_3, ASI -W_4

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
ASI _fs_1	lecture	Providing content of education in verbal form, using content visualization. Concentrating on conceptually difficult issues.	10	Familiarizing with subject of the lecture.	10	ASI _w_1
ASI _fs_2	laboratory classes	Detailed preparation to solve problems stressing methodology of proceedings, pointing sequence of proceedings. Solving tasks of content. Quizzes and multiple choice tests together with group discussion over possible answers.	20	Solving tasks from subsequent topics together with analyses of the existing solutions (available on the teacher's websites). Applying knowledge concerning artificial intelligence, gained during lectures and laboratory classes, on the basis of data generated by students, which allows its ordering.	20	ASI _w_2, ASI _w_3